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SOCIAL TOPOLOGY AND THE PROBLEM OF AGENCY IN THE ACTOR-NETWORK CONCEPTION OF JOHN LAW

Abstract. *The article analyses the special understanding of agency in framework of social topology by contemporary English sociologist John Law. Author interprets social topology as an original version of actor-network theory (ANT), where theoretical focus shifts toward the sociology of space. Agency, thereby, appears here as a capacity of the object to take a part in construction of multiple forms of spatiality.*

Key words: *agency, social topology, actor-network theory, space, object*

Introduction. Actor-network theory (ANT) is relatively new, but also provides innovative way of sociological thinking. It has its origins in the mid-1980s in works by two French sociologists Bruno Latour and Michel Callon [1], who settled basic conceptual and theoretical principles of this approach. Innovative character of ANT appears, first of all, in systematic application of «generalized principle of symmetry» [2, p. 167-171] that entails programmatic declining of the set of epistemological gaps that structure sociological cognition, which is oriented on classical patterns of scientific rationality. These gaps manifest themselves on epistemological level by the series of interrelated dualisms [3, p. 132] that found their expression in such a widespread contradistinctions as «subject-object», «culture-nature», «human-non-human», «symbolic-material» and so on. Proposition of the theoretical language able to describe realities under study without falling into opposition between human and s. c. «non-human» components of the world, is generally considered as the key achievement of ANT. Material objects [4], technological artifacts [5], computer software [6, p. 284-297], animals [7, p. 225-236], microorganisms [8] and other entities endowed by agent abilities in this framework and hence become active participants of the social life. Despite the growing popularity of the actor-network theory in Ukrainian social science, there is very few materials about one of the most signified personalities of this approach – English sociologist John Law, who develops his own original version of ANT (that is sometimes called «social topology» [9, p. 25]) up until now. The crucial importance of his theoretical work is that Law has integrated actor-network vision of agency (devoid of contradistinctions enlisted above) into the context of sociology of space, i. e. to grasp a place of action as a key condition of its possibility and to describe spatial dispersion of agency through the special notions of «enactment» and «performativity» [3, p. 45].

Taking into account the common growth of the interest in actor-network theory among Ukrainian sociologists today as well as appearance of new translations of related authors, we can talk about the increasing urgency

in more close acquaintance with one of the most important its representatives – John Law. So, the **aim** of this article is to analyze the issue of agency in the context of John Laws' social topology. The general research field under study is the version of actor-network approach developed by him. And the **subject-matter o**f the article is the conceptualization of spatial properties of agency under the context of the socio-topological model, proposed by the English scientist.

The issue of space in John Laws' conception is closely related to another significant topic of his work that is mobility. In authors cooperation with another contemporary English sociologist John Urry (who was his colleague in the University of Lancaster for some time), they have published a set of co-authored articles, devoted to the problem of fluidity, multiplicity and instability of modern social life-forms as well as to some reflections on disability of conventional models of sociological thinking to handle this changes. This gave them grounds for critical look at traditional vocabulary of social sciences that always tries to stabilize and unify these dispersed and liquid phenomena in such terms as «society», «social structure», «social institute» and so on. Authors suggest that «social-and-physical changes in the world are – and need to be – paralleled by changes in the methods of social inquiry. The social sciences need to re-imagine themselves, their methods, and indeed their 'worlds' if they are to work productively in the twenty-first century» [10, p. 390].

Transformation of basic conceptual metaphors, on which sociological thinking is grounded, was also the key task for John Urry in his book «Sociology Beyond Societies: Motilities for The Twenty First Century» [11], where he has proposed to replace idea of unique, hierarchical and ordered society by the idea of multiple, networked and fluid sociality. John Law, for his part, suggests that sociology can productively use for this reason topological ideas taken from the theoretical mathematics, which may give it capacities for effective description of diverse forms of mobility.

Author begins his programmatic text entitled «Objects and spaces» [12] with the question: «What is an object?». The answer toward this question is the first step toward the foundational for ANT theoretical attitude to include material objects (or wider – non-humans) into the field of sociological analysis. He argues that «in its original form actor-network theory (ANT) has a specific and distinctive answer this question. It proposes that objects are an effect of stable arrays or networks of relations. The suggestion is that objects hold together so long as those relations also hold together and do not change their shape» [12, p. 91].

This suggestion is deeply rooted in the great and powerful background of poststructuralism and semiotics, which implies that meaning of any word is indifferent to its acoustic form, but appears as an effect of its relation to other words. This idea was originally expressed by Ferdinand de Saussure about a hundred years ago, but it was reconstructed by poststructuralists who have added here the concept of multiplicity and declined the focus on the search of deep unique structure, which allegedly regulates all linguistic or

symbolic phenomena [13]. But in the case of John Law we deal not with just another version of structural linguistics. As well as his French colleague Bruno Latour, whose works are strongly related to ideas of Paris School of Semiotics by Algirdas Julien Greimas [14], author proposes very special ontological extension of semiotics, where main analytical focus shifts from relations inside language or another sign system to relations between material objects (including human bodies). That's why John Law uses term «material semiotics» as one of the possible names for his version of ANT. He insists that the problem of meaning is always inescapably related to things themselves: not in the substantial sense of correlation, but in relativistic sense of inter-objectivity and relations between material entities.

Building on this understanding of object Law makes a step towards the social topology: «I argue that the making of objects has spatial implications and that spaces are not self-evident and singular, but that there are multiple forms of spatiality […] that these spatiality's and the objects which inhabit and enact them are unconformable, that they are Other to one another, and that that objectness is a reflection and enactment of that unconformity, a shift between different spatial im/possibilities» [12, p. 92]. This spatial multiplicity author illustrates on example of the late 15th century Portuguese colonial ship: «a vessel can be imagined as a network: hull, spars, sails, ropes, guns, food stores, sleeping quarters and crew. In more detail the navigational system – Ephemerides, astrolabe or quadrant, slates for calculations, charts, navigators and stars – can also be treated as a network. And on a larger scale, the Portuguese imperial system as a whole, with its ports, vessels, military dispositions, markets, and merchants can also be thought of in the same terms» [12, p. 93].

In actor-network perspective the very vessel is just the effect of interrelations within the network of different human and non-human entities, and, in Laws' account, research task is to investigate by which way are these networks created and ordered. That's why author, following Bruno Latour, talks about s. c. «immutable motilities» [15]: the object under study really changes its place in geographical (Euclidean) space, remaining immutable in the space of its network. The example, described above, clearly demonstrates methodological specific of ANT, because dualistic contradistinction of human agents and non-human objects, social and natural components of the situation are directly ignored. All the components together take a part in objects' constitution, making their own contributions to the common composition, and, hence, they are actors – active participants of the situation – mediators of specific forms of agency.

As well as hostile artillery can harm your vessel, any sudden gust of wind may become the worst enemy of yours. In other words, action should be identified by its consequences (its contribution to the situation), not by its motives and subjective accounts: intentionality and consciousness are signified, but not necessary condition of agency deployment. For example, the question of what was the real cause of death: hostile fire or «natural»

coincidence, may be interesting for lawyer, but it cannot crucially change the factual order of events. Thereby, any component of the network that may be identified as an autonomous entity can become an actor [8, p. 39], indifferently to its nature, whether it's man, ship, microorganism or wind.

The topological argument, borrowed by Law from mathematics, gives him abilities to talk about construction of space, and, hence, about variations of possible forms of spatiality. Law notices that in Euro-American common sense dominates idea of s. c. «eternal Euclidean space» that precedes all the things and places all the objects inside. At the same time mathematical topology suggests that spatial organization of the world is not something that precedes and covers objects, but is just a result of stabilization of relationships between them. In this sense, some of the spatial assemblages really include another and precede them in time, but this situation is also a result of stabilization of inter-objective relationships, which can also be changed[1]. The problem of space in topology is unavoidably related to the capacity of objects to hold their homeomorphism that is their capabilities to resist the circumstances and to regain their original state. For instance, a braided hair is homeomorphic to a lush festive hairstyle, because there still remains an opportunity to go back from one hairstyle to another, while after proper haircut it will be impossible. New sheet of paper and crumbled sheet of paper are homeomorphic, because it's just two different states of the same object, while the torn sheet of paper is already a new object [9, c. 27-28]. To be homeomorphic means to remain within the same horizon of possibilities, where any transformation entails a potential for inversion into the previous state. When this inversion becomes impossible the object loses its stability and its spatial organization changes.

John Law discusses spaces in multiple, insisting that objects can be related to one another in different ways: for example, they can change their actual position with regard to each other in Euclidian (physical\geographical) space and remain their functional interrelations immutable in the space of network. It raises the question of the interdependence of these two forms of spatiality[2]: how does a loss of homeomorphism in Euclidean coordinate system affects objects' position inside the network, and vice versa. Topology bans any vision where space appears as a «general place», which includes «all other places», because any space is always something constructed through the process of inter-objective relations[3].

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[1] The author uses the same arguments, when he notes (together with John Urry) the theoretical weakness of the notion of «society» that is grasped as a specific «container», which includes individuals, groups, institutions and other materials inside itself [10, p. 6-7].

[2] This question was the first time raised by Pierre Bourdieu in his theory of "social space", when he analysis its relationships to physical space [16, c. 49-63]. His interpretation of social space is also rooted in structural semiotics ("genetic structuralism"), but is essentially limited by the fact that structuralism method is used by him only for analysis of the relationships between people, while things are considered as a mere "symbols" of class status [17]. Actor-network theory, by contrast, insists on the elimination of epistemological gap between humans and non-human beings, so things acquire their own ontological independence.

[3] The multitude of objects among other things includes living human bodies that interact with other animate and inanimate bodies. This Laws' position relates him to philosophical school of «object-oriented ontology», where reality is considered as a dynamic process of mutual construction of objects [18].

So, Euclidian space is a result of standardization and generalization practices: «boundaries and distances are generated by surveyors who know how to use theodolites, to measure angles between trig points, to take accurate records of the angles between those points and who are able to transport records back to a cartographic center where they can be arrayed on a two-dimensional surface where they can be set against the known distance of some base-line» [12, p. 97]. But it would be incorrect to consider Euclidian space as something «natural» in contrast to «artificial» social space. Nevertheless, life of the object in the space of network is strongly depended on its homeomorphism in Euclidian space: «a vessel is only an unbroken network shape if it is also an unbroken Euclidean shape. And here is the rub. To generate network homeomorphism it is also necessary to work in Euclidean space and make an object, a vessel-shape, whose relative Euclidean co-ordinates are constant» [12, p. 97]. That's why fabrication of objects has always multitopological character: stability of object archives at intersection of different spaces.

Nonetheless, the author also pays substantial attention to existence of unstable (fluid) objects. Under unstable objects he means those objects that can effectively function only if they lose their Euclidian and network homeomorphism. They «work» well only if their boundaries are mobile and indefinite. That's why he appeals to his colleagues Marianne de Laet and Annemarie Mol [3, p. 80-82] and their research of specific system of Zimbabwe Bush Pump that functions in African local aboriginal villages. This device was designed for ecological and preventive reasons – to purify the water extracted from the ground in order to reduce the risks of bacteriological diseases. But the problem is that neither its physical structure nor network composition is stable enough to describe its essential characteristics. Its mechanism varies greatly from village to village and seemingly irreplaceable details it some cases can be thrown out as unnecessary junk. Network boundaries of the Bush Pump are unstable as far as its internal technical organization, because criterions of its effectiveness remain extremely indefinite and unclear: if water mismatches epidemiological norms it's not necessary means disease of local population, while dirty water from the depth may entail much fewer ricks than «pure and clear» water from the river. Therefore, the Pump almost never exists inside a stable system of relations; it strongly depends on the ways and modes of its exploitation. There is no standard model of the Pump, because there are no any technological standards at all.

Therefore, Law besides Euclidian and network spaces proposes to talk about «fluid space» [12, p. 99-102], that is the third spatial dimension populated by special kinds of objects – fluid or unstable objects. Zimbabwe Bush Pump is something essentially different than Portugal colonial vessel, because from the topological point of view it exists as a homeomorphic object only by means of continual gradual (not immediate) loss of its physical and network homeomorphism. None the less, «fluid» objects owing to the gradual character of changes save their continuality that give us possibility to consider them as «still the same objects». Only eventually,

when they accumulate the critical amount of changes, they stop to be what they recently were. But such an object would lose its homeomorphism anyway, if it will be stabilized in network relations and localized in Euclidian space.

Now it would be better to return to the issue of agency and to consider a key question of «place of action», as a significant condition of its possibility. Authors topological model allows discussion about at least three different forms of spatiality, and, hence, about three different modes of objects' existence. This triple topology entails triple understanding of agency:

1) Agency as a modification of situation by means of physical move or replacement of objects (object as an element of Euclidean space);

2) Agency as a contribution made by object into the whole structure of its interrelation with other objects (object as an acting "actor" in the space of network);

3) Agency as a keeping of functional homeomorphism in conditions of gradual physical and network changes («liquid object» of the fluid space

In accordance to the three types of agency described above we could formulate special typology of its mediators, but at first it will be better to emphasize on methodological background, which is the basis that makes possible this multiple understanding of agency. At the beginning of this article we have noticed that ANT tries to eliminate traditional epistemological gaps related to dualistic contradistinction like «human-thing», «subject-object», «culture-nature». Law argues that these oppositions determine and support one another, because their background is another deep opposition. «This is the divide between those classes of entities that are taken to be active on the one hand, and those that are known to be passive on the other. The human, the subject, and the social, these are or should be (mostly) active. Potentially creative, potentially discretionary, potentially autonomous – these have the capacity for action (in the standard social science sense of the term). By contrast, the non-human, the object, and nature, these are or should be (mostly) passive, acted upon and predictable. In theory how they act can be (more or less, and sometimes statistically) predicted and indeed (or so it is hoped) controlled» [3, p. 132-133]. Contrary to the dualistic view entailed by the classical scientific rationality, ANT proposes the idea of heterogeneity and multiplicity of modes of objects' existence, which means that agency is distributed between all the participants of the situation. Objects not just able to act, but are enacted by other objects keeping their own place in the frame of multiple topology.

Conclusions. Thus, we can talk about the different modes of objects' participation in the construction of everyday situations. They may be conscious or not, able to initiate change in their position in Euclidean space or not, capable for mobilization or physical transformation of other objects or not, able to maintain their position within the network or, vice versa, to change it (to break, for example), to maintain their "identity" in homeomorphic space of flows or lose it. For John Law all these features are evidence of multiplicity, fluidity and instability of social life, because central

issue of sociology that of mutual coordination and mobilization of actors finds no definitive answers here. Instead of the traditional model of society grasped as hierarchically structured reality, we deal with a dynamic social topology that includes physical regions, networks and flows and involves heterogeneous actors that differ significantly in their status, size and horizon of possibilities as well as in their way of participation in the world.

However, all of them are agents of special forms of activity, and, hence, to trace their interactional trajectories and consequences caused by this interaction, is especially sociological enterprise. Following the logic of structural semiotics, representatives of actor-network theory goes further than the representatives of classical structuralism or post-structuralism in sociology. Social space here is not limited to the space of relationship between human agents, because the real situations are always mediated by non-human actors able to significantly modify general direction of events' deployment. The network relationships are not limited to "the logic of distinction", system of judgments production or sign representations, but get a reliable ontological foundation in the form of material objects that are not passive intermediaries of human intentions, but are agents directly involved in the enactment of the realities of social life.

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